fernald Report

Inside

March/April 2002

message from
Steve McCracken

Top to Bottom Review

Secretary of Energy Spencer Abraham and Assistant Secretary for Environmental Management (EM) Jessie Roberson sent a clear message to DOE workers and stakeholders in January when they visited Fernald to announce the results of the department's Top-to-Bottom Review of its EM Program. They made it clear that the cost and time frame for completing environmental cleanup is too long and too costly, and the communities in which DOE sites reside deserve a better response time than one, two or even three decades. They also emphasized that cleanup programs need to focus on reducing risk, not just managing it.

What are the costs? In EM's 1998 Paths to Closure report a price tag of $147 billion was placed on DOE's cleanup program. New DOE estimates show that today life-cycle costs associated with this mission are closer to $220 billion. Without some significant technology improvements or changes in how we approach the work, the Department estimates that the total could easily increase to more than $300 billion before DOE completes its environmental remediation mission. Under the Secretary's new plan sites like Fernald, Mound and Rocky Flats are a high priority for acceleration to achieve closure in 2006. Completion of these three projects alone could then free up close to $1 billion a year that could go to cleanup projects. The overall objective here will be to substantially reduce the cleanup schedule, thereby reducing the health risks to the public and saving taxpayers billions of dollars.

Here at Fernald, Fluor Fernald has already put together a cost and schedule baseline with a 2006 target. DOE is now reviewing the plan and working with Fluor to address comments. The new baseline will go to the Assistant Secretary for her review within the next few weeks. We are eager to earn our part of the $800 million expedited cleanup account that has been set aside in the FY'03 budget to reduce risk, cost and schedule.

2002 and 2003 will be pivotal in determining how soon we complete the work. Successful construction seasons in these years will be critical to reducing the schedule and price tag of the cleanup and in setting the stage for an '06 completion. In the meantime work continues to move safely and briskly in all phases of the operation. In our next issue we will be able to report on the last shipment of nuclear material to leave Fernald and the demolition of a site landmark, the Health and Safety Building.

Steve McCracken
Director, DOE-Fernald

On the cover: *Flanked by local media and members of the trade press, Secretary of Energy Spencer Abraham and Assistant Secretary for Environmental Management Jessie Roberson, field questions on DOE's Top-to-Bottom Review. Prior to the press conference, both Abraham and Roberson reviewed the demolition work underway at Fernald (7737-d0099).*

Energy Secretary visits Fernald

Fernald workers and local stakeholders were pleased when Energy Secretary Spencer Abraham chose the Fernald site as the backdrop to announce the Department's fiscal year (FY) 2003 budget request. The proposed budget includes a new account to reward DOE sites for accelerated cleanup.

On Jan. 31, before a group of 250 people at Fernald, Secretary Abraham outlined the Department's $6.7 billion FY2003 budget request to fund cleanup at more than 100 DOE sites around the country. Abraham developed the budget following a thorough, top-to-bottom review of the DOE environmental management program. The budget includes a special $800 million expedited cleanup account that would be available to sites which commit to accelerating their schedules. With the extra funding incentive, DOE's goals are to eliminate significant health and safety risks, review remaining risks on a case-by-case basis while developing remediation strategies, and streamline cleanup so current funding will go to accomplishing real cleanup, rather than routine maintenance.

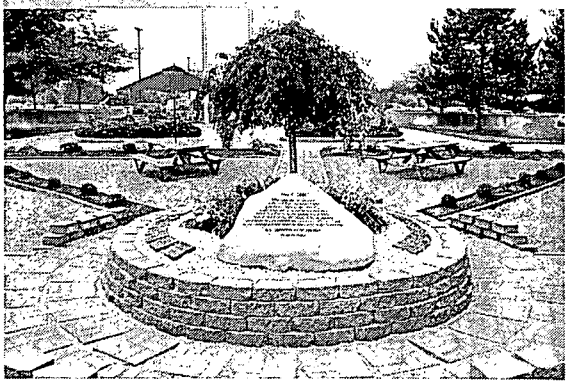
For Fernald, this could mean additional funding to achieve site closure by 2006. "Secretary Abraham's visit sends a clear message that DOE believes Fernald has the one of the most credible track records for achieving early closure," Steve McCracken, DOE-Fernald director, said. Since 1996, Fernald has been working under an accelerated cleanup plan that cut over 20 years off the original schedule prediction. Today, DOE and Fluor Fernald are on target to complete cleanup and site closure by 2006.

Top: Energy Secretary Spencer Abraham chose Fernald as the backdrop to share the results of the top-to-bottom review based on the site's ability to achieve closure in 2006 (7737-d011).

Cold War Garden honors Fernald workers and area residents

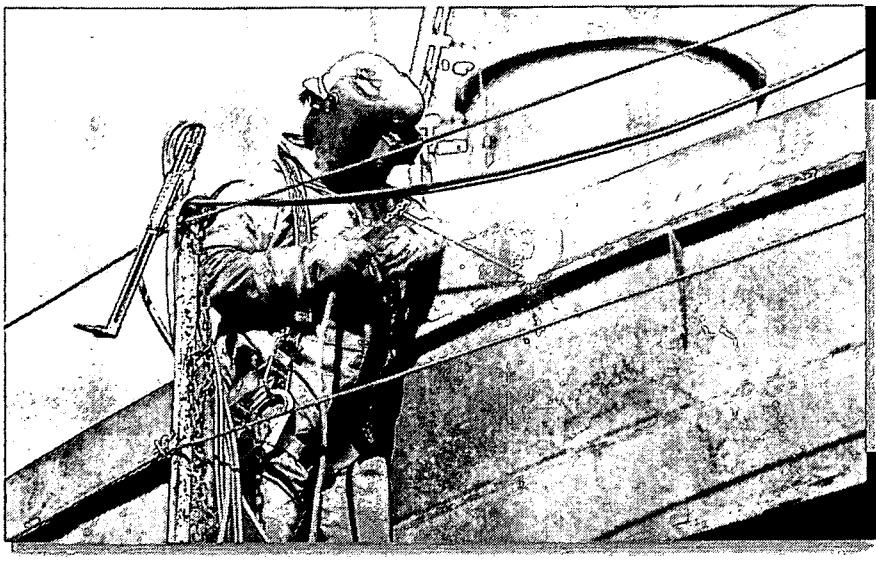
The Crosby Township Historical Society and Fernald Living History, Inc. (FLHP) have partnered to establish a Cold War Garden project commemorating the sacrifices made and the historical role of Fernald workers and area residents. The Cold War Garden, currently located on site, is a landscaped area where engraved bricks are set in a pattern radiating from a central core. The commemorative bricks were originally placed during Fernald's 50th Anniversary observance. Since then community members, former workers and current workers have purchased more than 100 additional bricks. The historical society and FLHP are developing plans to move the Cold War Garden to a more publicly accessible location once remediation of the site is complete. The Garden will serve as a permanent historical marker preserving the Fernald story for current and future generations of Americans.

The Crosby Township Historical Society and FLHP invite you to participate by purchasing Cold War Garden commemorative bricks for $35.00 each. Bricks can be purchased to reflect your own contributions to Fernald or honor a friend, relative or loved one. Proceeds from brick sales go toward long-term maintenance of the Cold War Garden and the educational missions of Crosby Township Historical Society and Fernald Living History, Inc. Order forms are available in information racks at the Fernald site, or call the Cold War Garden hotline at 513-648-4071.



(7602-d16)

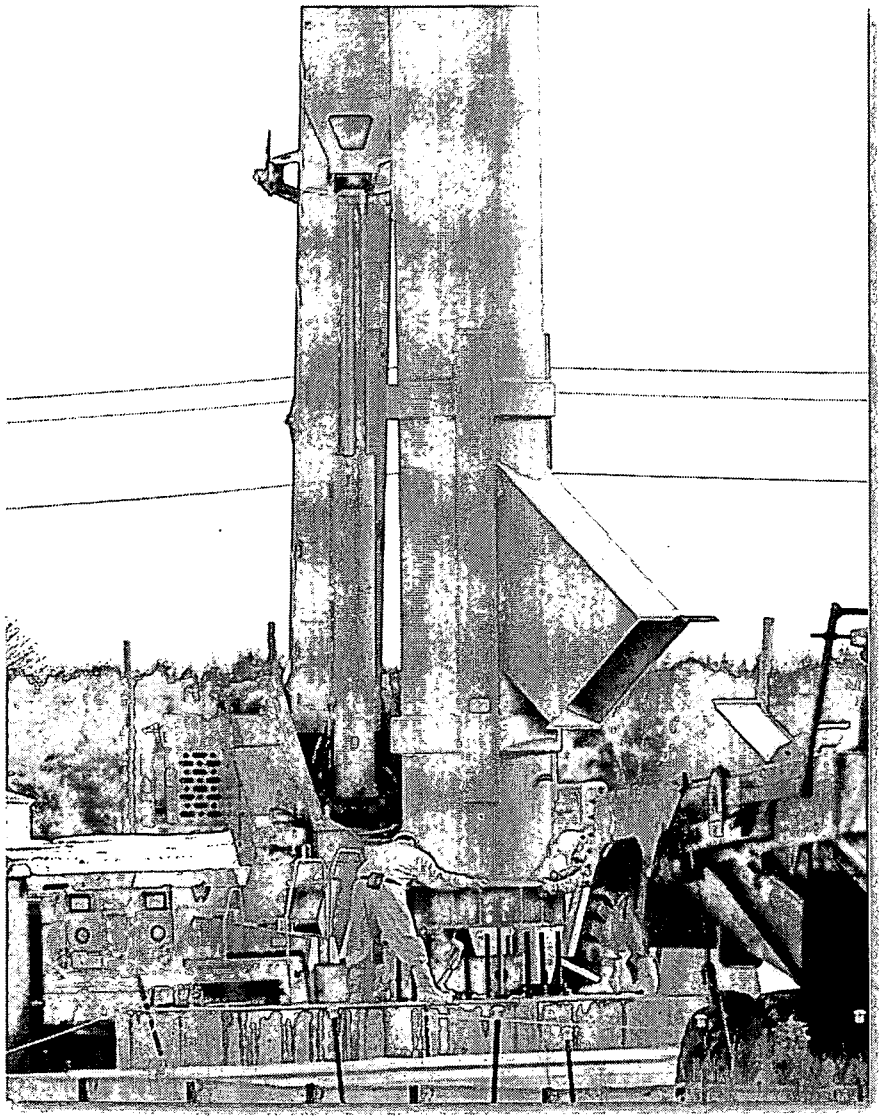
Cleanup **Progress** Update



Waste Pits Remedial Action Project (WPRAP)

- ☐ Safely transported trains (#52 - #53) to Envirocare of Utah during January/February
- ☐ Discussed the *Explanation of Significant Differences (ESD) to the Operable Unit 1 Record of Decision* with stakeholders during the February Cleanup Progress Briefing. The ESD will allow materials from other Fernald projects to be mixed with pit material and then disposed of at Envirocare
- ☐ Completed 23 sample borings on the Pit 4 material

Silos Project



- ☐ Matrix Service Mid-Continent, Inc. constructed and placed roofs on Tanks 1A and 1B, two of four 750,000-gallon storage tanks comprising the Transfer Tank Area (TTA)
- ☐ Visited the Marietta Structures facility to monitor casting of the box culverts for the carbon beds that will be installed in the Air Handling Building
- ☐ Completed re-design of the steel and concrete shielding that will be installed around the perimeter of the carbon bed enclosure

Above left: A boilermaker welds the roof assembly onto one of four Transfer Tanks. The tanks will be used to hold over 240,000 cubic feet of waste materials from the Silos (7385-d1349).

Left: The Waste Pits Remedial Action Project is completing construction of a Pug Mill Ventilation System to reduce airborne emissions coming from material discharged from the dryer. The system is scheduled to go on line in March (6944-d1937).

Soil and Disposal Facility Project

- Continued bulk debris staging at the On-Site Material Transfer Area; over 1,271 roll-off boxes emptied to date
- Continued site preparation for Cells 4 and 5 liners
- Installed and tested New Technology sensors in the OSDF Cell 1 cap
- Completed the cutting and chipping of dead/diseased pine trees in the Northern Pine area; chips will be used in the restoration of the Borrow Area and the Southern Waste Units
- Continued excavation of the Resource Conservation Recovery Act and above waste acceptance criteria soil in the former production area
- Closed the site's North Access Road and began construction on an Emergency Access Road

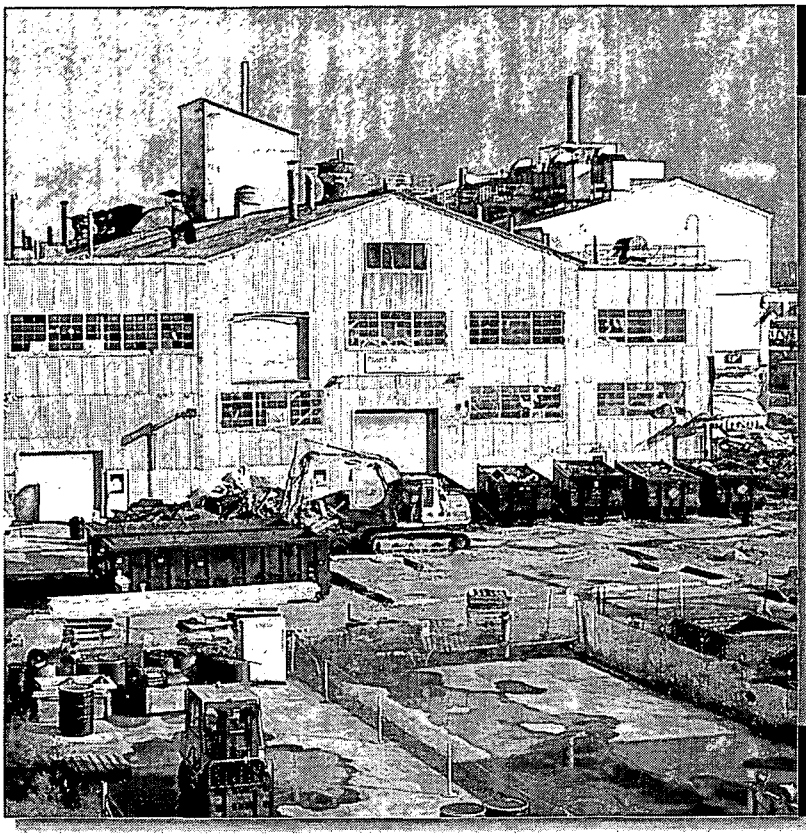
Aquifer Restoration/ Wastewater Project

- Continued construction of the well houses and associated infrastructure for the Waste Storage Area Extraction Module
- Completed installation, development and first round sampling for eight monitoring wells to support the Waste Storage Area (Phase II)
- Began design of replacement injection wells, which will enhance the groundwater cleanup and replace existing injection wells 8 and 9
- Prepared and issued to U.S. and Ohio EPA's the draft package for baseline groundwater condition at the OSDF Cells 1, 2 and 3
- December/January totals: extracted 324,185,000 gallons of groundwater; treated 178,956,000 gallons of groundwater; removed 128 net pounds of uranium from the aquifer

Top: Brian Mize from the Soil and Disposal Facility Project checks for contamination in soil using a radiation scanning system (7298-d173).

Above: John Deho, a soil technician, collects soil samples at the Maintenance Building excavation in the former process area (7746-d0021).

Cleanup **Progress** Update



Demolition Projects

Decontamination & Demolition (D&D)

- Plant 6 Complex
  - Continued size reducing and placing debris into roll-off boxes for disposition
- Multi-Complex (Plants 2, 3, 8 and General Sump)
  - Completed structural demolition of Buildings 2F, 8B and 8H
  - Ongoing activities included: establishing building enclosures and vestibules; removal of equipment, piping, exterior transite, windows, walls and miscellaneous debris; shearing tanks, equipment and structural steel; gross washdown and size reducing debris and placement in roll-off boxes for disposition
- Facilities Shutdown
  - Began utility disconnects in the Safety & Health Building (53A)

Above left: A view of Plant 8, the former Scrap Recovery Plant. D&D will consist of surface decontamination, dismantlement, size reduction of building materials and containerization of all construction debris. D&D will be complete in 2003 (6681-d0343).

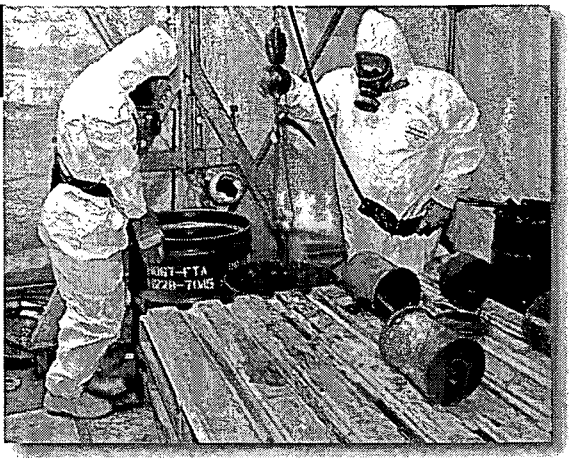
Nuclear Materials Disposition

- Product Shipments to DOE-Portsmouth
  - Total of 3,473 MTU or 96 percent of the total volume shipped since project inception in June 1999
- Other Product Disposition activities
  - Completed packaging materials for private sector sale (76 MTU)
- Uranium Waste Disposition
  - Continued characterization and visual inspection of containers
  - Continued packaging of materials for shipment to the Nevada Test Site

Left: A Nuclear Materials Disposition driver prepares to move drums of uranium waste compounds into Building 56. The drums will be repackaged and prepared for future shipment to an off-site facility (7536-d298).

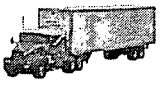
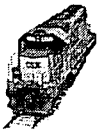
Waste Generator Services

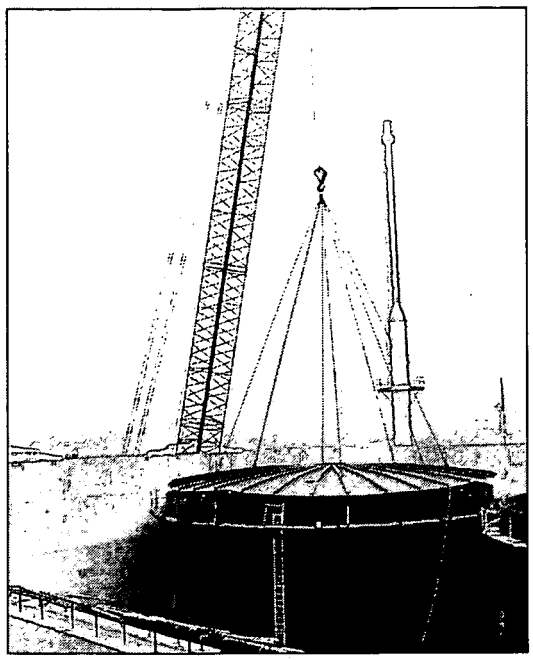
- Thorium Legacy Waste Project
  - Completed venting and decanting operations and movement of the thorium inventory to a new storage location on the Plant 1 Pad
  - Continued to develop plans for Building 71 Isotopic Room for use by the Thorium Project trash sorting
- Inorganic Treatment Project
  - Initiated and continued construction of the Mixed Waste Processing Enclosure in Building 79
- Waste Treatment & Waste Storage
  - Completed Phase II, Batch 12 sampling and shipped samples to off-site labs for analysis
  - Awaiting application approval from the Toxic Substance Control Act Incinerator and the State of Tennessee to ship Batch 11 liquid mixed waste
  - Dispositioning current on-site trash generation to the On-Site Disposal Facility
  - Packaging asbestos for shipment to the Nevada Test Site
  - Dispositioning containerized soil through the Waste Pits Remedial Action Project for disposal at Envirocare



Above: Hazardous waste operators are preparing to dip billets into a sealant to prevent future oxidation. The material will then be repackaged for shipment to a commercial off-site vendor (7368-d0423).

Fernald Shipments – January / February 2002

Contents / Destination	Shipment Mode	Number of Shipments	Monthly Total	FY02 Total	Approximate Project Totals
Low-Level Waste (Nevada Test Site)		42	45,141 cu. ft.	125,358 cu. ft.	5.99 million cu. ft.
Mixed Waste - Materials & Energy Corporation at Oak Ridge		0	0 cu. ft.	1,039 cu. ft.	1,039 cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		0	0 gal.	0 gal.	141,895 gal.
Nuclear product/materials (Portsmouth)		48	116,133 net lbs. or 47.1 metric tons uranium	273,134 net lbs. or 113 metric tons uranium	8.9 million net lbs. or 3,472.5 metric tons uranium
Soil and debris - On Site Disposal Facility		N/A	0 in-place cubic yards	30,560 in-place cubic yards	663,554 in-place cubic yards
Waste Pits Project (Envirocare of Utah, Inc.)		2 unit trains (120 railcars)	12,917 tons	42,215 tons	331,137 tons



Above: The crane at the Silos Project lowers a roof onto one of the storage tanks in the Transfer Tank Area, which will eventually hold waste material from the Silos (7385-d1325).

Silos update

The Silos Project put the 220-ton crane that resides on the west side of the Fernald site to use recently when Matrix Service Mid-Continent, Inc. used it to place lids on Tanks 1A and 1B. Matrix built the two 750,000 gallon structures as part of the Transfer Tank Area (TTA), which will contain a total of four tanks. Workers are presently assembling the lids, also known as roofs, for the other two tanks, 2A and 2B, directly on top of the tank pads on the south side of the TTA. Crews will use the crane again to lift the finished roofs out of the building and store them next to the structure. Matrix will then erect 2A and 2B and lift the roofs into place when the tanks are complete.

The four tanks will store 8,900 cubic yards of high activity, low level waste transferred from Silos 1 and 2. The material will reside in safe storage there until the silos team finishes the design, construction and start-up of the waste treatment facilities. According to the accelerated cleanup plan, crews will stabilize the waste by reducing leachability and moisture content, then ship it by rail for disposal. Jacobs Engineering Group will design and engineer the treatment facility and Fluor Fernald will operate it. The design phase of the treatment facility is now 17 percent complete, and the Fluor Fernald Silos Project team continues working with the Oak Ridge Jacobs Engineering Group on engineering development.

In March 2002, Fluor Fernald will send the Remedial Design package for Silo 3 to the EPA. Silo 3 contains 5,088 cubic yards of metal oxide wastes, and according to the cleanup plan, crews will excavate the material, stabilize and package it, and then ship it by rail for offsite disposal. The Silo 3 team has started the procurement process and will begin construction on a treatment facility late this summer.

Comprehensive long-term monitoring of the OSDF

Fernald engineers designed the On-Site Disposal Facility (OSDF) to isolate impacted material from the environment for at least 200 years. The design will potentially retain its effectiveness for up to 1,000 years. To accomplish this, engineers incorporated design controls into both the 5-foot multi-layer liner and the 8.75-foot final cover (cap) system of each cell.

Currently, workers have constructed three 7-acre cells. Each liner contains instrumentation to detect leaks and a leachate collection system to monitor leachate flows. Horizontal and vertical monitoring wells under and around each cell monitor groundwater.

Crews completed the Cell 1 cap in December 2001. The cap minimizes moisture infiltration into the underlying waste materials, promotes drainage to minimize erosion, prevents bio-intrusion and accommodates settling to maintain the integrity of the cover. Before installing long-term monitoring instrumentation in the cell cap, engineers established parameters for each monitoring need and then identified potential technologies for each parameter. Technologies utilized include pressure transducers, water content reflectometers, heat dissipation units, settlement rod/plate and ground penetrating radar plates for various layers of the cap.

During January and February, workers installed the sensors and associated monitoring equipment with real-time, remote data transmission capabilities in the cover of Cell 1. After crews conduct a system operability test in early spring 2002, the Cell 1 monitoring system will be operational.

Above: Technicians install a water content reflectometers in the Cell 1 final cover system. Monitoring ensures the liner and cap are functioning properly and will provide early warning if corrective action is needed (6319-d3423).

Fernald selected for public participation study

The DOE Office of Intergovernmental and Public Accountability chose Fernald and six other DOE sites to be part of a public participation study conducted by Pacific Northwest National Laboratory (PNNL). Judith Bradbury, representing PNNL, visited Fernald in February to observe the Citizens Advisory Board meetings, attend the Cleanup Progress Briefing and conduct interviews with site staff and members of the community concerning representation of public viewpoints and other public participation experiences.

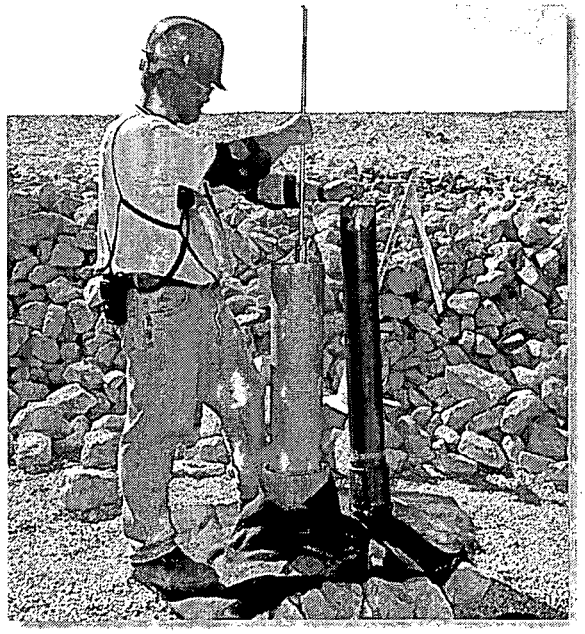
The study will identify lessons learned to assist both Headquarters and the Field Offices in improving DOE's public participation programs. The completed study will include a summary of each site encompassing geographic, demographic, and historical background and descriptions of each site's public participation structure and activities. PNNL expects to complete the study later this year and a copy will be available at Fernald's Public Environmental Information Center.

Above: Judith Bradbury, from Pacific Northwest National Laboratory, discusses public participation at Fernald with Glenn Griffiths, DOE-Fernald Deputy Director (7743-d0002).

Peer review audits monitoring technologies

The American Society of Mechanical Engineers and the Institute for Regulatory Science have joined forces to provide a peer review of Office of Science and Technology (OST) development projects. The OST is a part of the Department of Energy's Office of Environmental Management. The peer review provides uniform, independent and timely technical reviews to help OST decision makers assess the scientific and engineering merits of their technology development projects.

On March 25, the peer review committee arrived at Fernald to assess the Post Closure Stewardship Technology Project. This project, initiated by the DOE, identifies, demonstrates and implements post-remediation monitoring technologies. The committee thoroughly investigated the development of long-term monitoring for the On-Site Disposal Facility's Cell 1 final cover system. Using technical validity, relevancy, overall assessment, economics and risk as criteria. Results of this group's peer review will help determine future funding for technology development activities.



Above. A laborer installs a "plate and rod" settlement device in Cell 1. The stainless steel rod extends down and is affixed to a stainless steel plate resting on top of the drainage layer. The rod will extend to the top of the OSDF, allowing surveyors to take precise measurements of any settlement or subsidence with the cover layers and cell waste (6319-d3240).

Jamie Jameson to lead Fluor closure team

To meet the demands and challenges of completing site closure by 2006, Fluor Fernald has realigned its organization and operations to create an efficient closure team.

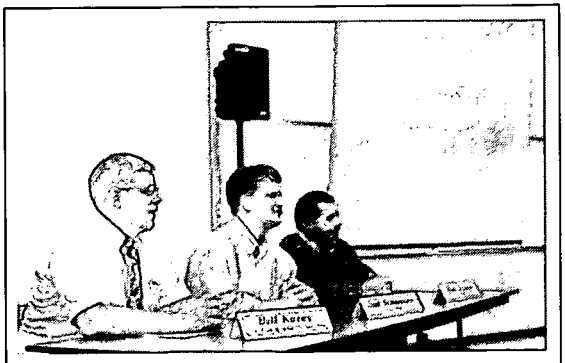
To lead the site to closure, Jamie Jameson will serve as executive project director, replacing John Bradburne who retired in January. With over 30 years of experience in the construction industry, Jameson is no stranger to managing complex projects. During his six years at Fernald, Jameson has worked in various senior management positions, overseeing hundreds of salaried and craft workers and directing site cleanup operations.


(7299-d02)

Under Jameson's leadership, Fluor Fernald's streamlined organization positions the company to achieve closure in 2006 without compromising safety or quality.

Dennis Carr will serve as senior director of projects to oversee critical path projects, such as the silos, the waste pits and waste management activities. Carr has worked at Fernald for more than 20 years and has experience managing day-to-day operations. Working closely with Carr, Bob Nichols will oversee soil and disposal facility activities, aquifer restoration operations and decontamination and demolition of structures. Terry Hagen will direct closure project regulatory management functions, ensuring Fluor Fernald remains on target with its baseline and complies with all applicable regulations.

Fluor also made several other moves to consolidate and enhance its administrative operations. "This team contains the right mix of talent and experience to lead the site to closure," Jameson said. "They understand the job and have earned the respect of our workers, the client and stakeholders."



DOE seeks input from community

As part of an ongoing effort to involve the community in decisions regarding the future public use of the Fernald site, the Department of Energy (DOE) held another workshop in late February to discuss the *Master Plan for Public Use*.

Previous workshops yielded a number of public comments that DOE used to form the basis of the *Master Plan for Public Use*. A primary goal of the Plan is to support future public education about regional, environmental, cultural, historical and ecological issues. For example, the *Master Plan* proposes post-cleanup public access to restored areas; a series of trails with interpretive signs about site, natural, and cultural history; point-of-interest overlooks; and an area set aside for Native American reinterments. It also outlines certain restrictions for the property.

The community has played a key role in helping DOE make critical post-closure planning decisions and DOE encourages members of the public to attend future meetings on this important issue. The comment period on the *Master Plan for Public Use* ended March 15, and a transcript of the February meeting is available at the Fernald Public Environmental Information Center (513-648-7480).

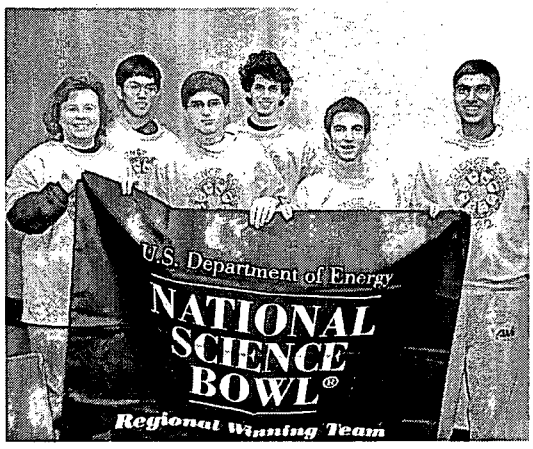
Above: Fernald Natural Resource Trustees (from left to right) Bill Kurey, U.S. Fish and Wildlife Service; Tom Schneider, Ohio Environmental Protection Agency; and Pete Yerace, DOE-Fernald answered questions concerning the Plan (6974-d0002).

One more time!

For the fifth year in a row, Sycamore High School will represent Cincinnati in the U.S. Department of Energy's National Science Bowl in May. Following a day of tough competition, they declared victory after defeating duPont Manual High School from Louisville, Kentucky in the final round at the regional contest, held February 2 at Cincinnati State. Thirty-two area teams competed in the eleventh annual competition.

Sycamore's team will join 63 other winning teams from across the country for the finals in Washington D.C. The national winner will attend the 32nd Annual Professor Harry Messel International Science School at the University of Sydney in Australia for two weeks.

Winning team members include Daniel Ash, Fima Macheret, Kathik Balasubramanian, Daniel Cheng and Lee Raskin. Coach Cindy Parrott, who will be traveling to Washington D.C. with the team, said, "The students had it set in their minds that they would return to the national competition. They came in fourth at nationals last year and this year they're determined to win it all."



Above: The victorious Sycamore High School team holds the banner designating them winner of the 2002 Greater Cincinnati Regional Science Bowl (7741-d34).

Left: Rev. Fred Shuttlesworth (left) and James Ellis, Fluor Fernald supervisor and event coordinator, share a few moments before the Reverend speaks to employees about the early civil rights movement and his memories of Dr. Martin Luther King Jr. (7733-d7).

Civil Rights Leader visits Fernald – recalls struggle for equality

In January, Fernald paid tribute to the memory of Dr. Martin Luther King Jr. with a visit from Reverend Fred Shuttlesworth. During the fight for equality in the South, Shuttlesworth, a Cincinnati native, was one of the "Big Three" working alongside Dr. King and Rev. Fred Abernathy.

The early struggle for civil rights in Birmingham, Alabama was dangerous and difficult for black Americans. There were three known attempts on Rev. Shuttlesworth's life, including a bombing at the Bethel Baptist Church on Christmas Eve in 1956 that completely destroyed the parsonage. The would-be assassins detonated 16 sticks of dynamite outside the Reverend's bedroom, yet he and his family were miraculously unharmed. Shuttlesworth was arrested 35 times in association with non-violent protests for equality.

A modest man, Shuttlesworth downplays his role as a civil rights leader and legend. "Everyone has within him more than he thinks," Shuttlesworth said. "We must choose to find God's purpose in our lives. I just tried to make the world better." When asked about his memories of Dr. King, he said, "I am glad God brought me to meet him." Today, Rev. Shuttlesworth still pastors the Revelation Baptist Church, a church he founded in Cincinnati. He also established the Shuttlesworth Housing Foundation, which helps low-income families purchase their first homes. Rev. Shuttlesworth's adopted home of Birmingham recently recognized him by naming a street after him. "They couldn't kill me, so they decided to honor me," said Shuttlesworth with a grin.

"If you have justice, everything else will be alright. Justice will lead to opportunities." Rev. Shuttlesworth is certainly a figure in American history that sought justice for all people and we at Fernald were privileged to have him as a visitor.

New documents added to the Public Environmental Information Center

The following information was added to the Public Reading Room, Administrative Record files and Post Record of Decision files at DOE's Public Environmental Information Center (PEIC):

☐ Waste Pits Remedial Action Project
- ◇ DOE Letter: Sampling of Waste Pit 4 Cover Material

☐ Soil and Disposal Facility Project
- ◇ OSDF (On-Site Disposal Facility) Phase IV Construction Documentation - Approval
- ◇ Organically Contaminated Soil Excavation Control - Approval
- ◇ USEPA Comments – Area 3A/4A Excavation Project Specific Plan

☐ Decontamination and Demolition Project
- ◇ Approval of Administrative Complex Implementation Plan for Above-Grade Decontamination and Dismantlement

☐ Silos Project
- ◇ Revised Draft Remedial Action Work Plan for Radon Control System Phase I Operation

☐ Aquifer Restoration Project
- ◇ Ohio Environmental Protection Agency Discharge Monitoring Reports - Fernald Environmental Management Project
- ◇ USEPA Approval – Monitoring Wells in the Pilot Plant Plume
- ◇ DOE Letter – Notification of Plans to Shutdown Extraction Wells

☐ Miscellaneous
- ◇ DOE Letter – Consolidated Consent Agreement /Federal Compliance Agreement/Federal Facility Agreement/Remedial Investigation/Feasibility Study/Consent Decree Monthly Report for the Period November 1, 2001 Through November 30, 2001 Including Anticipated Work for the Period December 1, 2001 Through December 31, 2001

Note: This does not represent the complete list of new documents added to the PEIC. Contact the PEIC, 513-648-7480 for a complete list of new documents.

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